

### **REMARKS**

Claims 56-117 are currently pending in the application. Claim 56 is amended. The amendments find support in the specification and are discussed in the relevant sections below. No new matter is added.

Applicants would like to thank Examiner Tran for taking the time to discuss the outstanding rejections in this case with Applicants' representative on November 18, 2005. The substance of the discussion that took place is summarized in the relevant sections below.

### **Priority**

The Office Action states that the issue of the priority claim in this case is still unresolved. There is some discrepancy as to whether Applicants filed certified copies of the two foreign priority documents UK0015443.5 and 0026099.2. Certified copies of these documents were filed with the Patent Office on September 17, 2003. Applicants have enclosed a copy of the filing papers and stamped return postcard to evidence the filing of the priority documents.

### **Rejection of Claims 56-68 and 78-86 Under 35 U.S.C. §112, Second Paragraph**

The Office Action rejected claims 56-68 and 78-86 under 35 U.S.C. §112, second paragraph for alleged indefiniteness in the recitation of "series of continuous lines" and "continuous lines". The Office Action asserted that the phrase "series of continuous lines" was vague because it was unclear as to the distinguishing characteristics of the claimed term with regard to the claimed array format. As discussed in the telephone interview with Examiner Tran, the confusion appears to arise from the Examiner's interpretation of "juxtaposed" and how the various array formats encompassed by the claims would achieve the claimed juxtaposition. As agreed during the interview, Applicants have amended claim 56 to require that a plurality of the first series of continuous lines intersects with a plurality of the second series of continuous lines. Examiner Tran agreed that this amendment would clarify the issues of definitiveness for claim 56 (and also for the claims depending therefrom).

The Office Action also rejected the claims as indefinite for the recitation of “continuous lines.” The Office Action asserts that “it is unclear what constitutes the metes and bounds of the term “continuous” regarding as to its ‘frame’ or reference, i.e., the length of the polypeptide or a physical structure of the solid support such as a channel as claimed in claim 65. The Office Action continues to state that if the term “continuous” refers to the length of the polypeptide, then the type of array format and interaction would depend on the length of the polypeptide, and that if the first and second series of lines intersected, then the interaction between the members of each repertoire would be a single amino acid interaction. As confirmed during the interview with Examiner Tran, the Patent Office is reading the phrase “arranging the first repertoire (or second repertoire) in at least one ...series of continuous lines” to encompass an embodiment wherein the actual amino acid sequence of a given repertoire member is physically placed in a continuous line; that is, the series of amino acid molecules comprising the polypeptide are physically arranged in a continuous line. The Office Action concludes that, because of this interpretation, the claims are vague and indefinite. Applicants respectfully disagree.

It is well understood that during patent examination, the pending claims must be given their broadest **reasonable** interpretation consistent with the specification. In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). The interpretation given a particular claim term or phrase must be consistent with the interpretation that one of ordinary skill in the art would reach. In re Cortright, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999). Moreover, the law is clear that the standard for determining definitiveness is whether one of skill in the art would understand what is claimed. *Amgen v. Chugi*, 927 F.2d 1200 (C.A. Fed. 1991). Definitiveness is determined, in part, from a reading of the specification. *Texas Instruments, Inc. v. U.S. Intern. Trade Com’n*, 871 F.2d 1054 (C.A. Fed. 1989). The interpretation of the claims and the phrase “continuous line” asserted by the Office Action is unreasonable, and inconsistent with the description provided by the specification. While Applicants are not advocating reading limitations from the specification into the claims, Applicants nonetheless contend that the interpretation of the claims by the Office Action is so far from anything taught or envisioned by the specification as to constitute an unreasonable interpretation. In addition, the interpretation asserted by the Office Action (that each amino acid molecule of a given polypeptide is arranged in the form of a continuous line), is not only beyond the reasonable scope of the claim, but is so

far beyond the scope of what is even technically feasible that the interpretation is clearly unreasonable.

The scope and meaning of the instantly claimed invention is clear and unambiguous. The claims require arranging a first repertoire in at least one first series of continuous lines such that each line of the first series has a comprises a member of the first repertoire (that is a given line does not include a mix of several members of the repertoire) and arranging a second repertoire in at least one second series of continuous lines such that each line of said second series comprises a member of said second repertoire. The claims require that the lines of the first and second repertoires intersect with each other so that the members of the first repertoire are juxtaposed with members of the second repertoire. The claims do not encompass a scenario in which the amino acid residues of a given member polypeptide are physically arranged in the form of a line. During the telephone interview, the Examiner agreed that the scope accorded to the claims was unreasonably broad, and agreed to reconsider and withdraw the rejection. Accordingly, the currently amended claims are clear and unambiguous. Applicants request that the rejection be reconsidered and withdrawn.

**Rejection of Claims 56-68 and 78-86 Under 35 U.S.C. §103(a)**

The Office Action rejected claims 56-68 and 78-86 under 35 U.S.C. §103(a) as allegedly unpatentable over the teachings of deWildt et al. in view of Winkler et al. The Office Action asserts that deWildt et al. teach a method of screening antibody-antigen interactions wherein “colonies of antibodies are picked into 384 well plates and ...gridded in a 4x4 pattern onto a ...nitrocellulose filter.” “A second filter is coated with the ligand protein L...and antibody binding to the second filter is detected.” The Office Action asserts that deWildt teaches that the antibodies include light and heavy chains. The Office Action asserts that Winkler et al. teach a flow channel method for making large arrays of polymers. The Office Action concludes that it would have been obvious to combine the teachings of both deWildt et al. and Winkler et al. to arrive at the claimed invention. Applicants respectfully disagree.

In order to the prior art reference (or references when combined) must teach or suggest *all the claim limitations*. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Whether considered alone or together, deWildt and Winkler fail to teach a method for screening a first repertoire of heavy or light chain against a second repertoire of heavy or light chain to identify those members of the repertoires that interact. deWildt et al. teach a high-throughput method for screening antibody-antigen interactions. deWildt grid whole antibody molecules on a nitrocellulose filter, and then bring the filter into contact with a second filter that has been coated with a candidate ligand. There is no teaching in deWildt et al. of a method for determining the interaction between one repertoire of heavy or light chain and a second repertoire of heavy or light chain. Winkler et al. do not supplement the deficient teachings of deWildt. Winkler merely teaches a method of generating polymers on a substrate by flowing the constituents of the polymer into channels in or on the substrate. Winkler et al. do not teach or even suggest a method for screening a first repertoire of heavy or light chain polypeptide against a second repertoire of heavy or light chain polypeptide to identify members of the first and second repertoire that interact. Thus, whether considered alone or together, the teachings of deWildt et al. and Winkler et al. do not teach each element of the claimed invention. Accordingly, the instant claims are not obvious in view of the teachings of deWildt et al. and Winkler et al., and Applicants respectfully request that the rejection be reconsidered and withdrawn.

Applicant submits that all claims are allowable as written and respectfully request early favorable action by the Examiner. If the Examiner believes that a telephone conversation with Applicant's attorney/agent would expedite prosecution of this application, the Examiner is cordially invited to call the undersigned attorney/agent of record.

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Respectfully submitted,

Name: Matthew Beaudet

Registration No.: 50,649

Customer No.: 29933

Edwards Angell Palmer &amp; Dodge LLP

111 Huntington Avenue

Boston, MA 02199-7613

Tel. (617) 239-0100